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FEDERAL - STATE COOPERATIVE

SNOW SURVEYS AND IRRIGATION WATER FORECASTS
for

Montana and Northern Wyoming Upper Missouri, Upper Columbia and Yellowstone Rivers

By
Division of Irrigation, Soil Conservation Service
United States Department of Agriculture
and
Montana Agricultural Experiment Station

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FEDERAL-STATE COOPERATIVE SNOW SURVEYS

AND

IRRIGATION WATER FORECASTS

FOR

MONTANA and NORTHERN WYOMING

Upper Missouri and Upper Columbia River Basins

Report Prepared
by

Ashton R. Codd: Hydraulic Engineer
Soil Conservation Service

and

O. W. Monson: Irrigation Engineer
Montana Agricultural Experiment Station

Division of Irrigation
Soil Conservation Service

and

Montana Agricultural Experiment Station
Bozeman, Montana

IRRIGATION WATER SUPPLY OUTLOOK
FOR SEASON 1952
AS OF APRIL 1, 1952

April 1 snow measurements made over the Upper Missouri and Upper Columbia River Basin indicate a good supply of irrigation water for this coming season. The Upper Columbia Basin, in Montana, is slightly above average. The snow accumulation during March has been below average. The snow pack at the present time over the entire basin averages approximately 112 to 130% of average, with a few high and low spots. The snow pack over the Upper Missouri Basin in Montana is excellent this season, basin-wide about 140% average. The Sun River is still a bit low but very close to normal conditions.

The Wind River Basin in Wyoming is slightly below average, ranging from 70 to 112% of average. The Popo Agie River Basin is in very excellent condition this season. The snow pack is 183% average basin-wide. Reservoir storage throughout the State of Montana and Northern Wyoming is very satisfactory for April 1. There is still a slight shortage of water to come for the Wind River of Wyoming and the Sun River of Montana.

JEFFERSON RIVER: April 1 snow surveys indicate a good supply of water for the irrigation season of 1952. Snow courses in the upper reaches of the Beaverhead and Rock Creek River average 122% of a 5-year average. In the Horse Prarie Basin, snow measurements show a 98% average snow pack for this season. At Big Hole River Basin, snow survey courses show 108% average. The Big Hole River at Melrose will flow approximately 650,800 acre feet during the runoff period May-September, or approximately 98% average. The Wise River drainage indicates 121% average. The Ruby River Basin is probably the highest of the group, showing approximately 140% average. Valley precipitation in the Jefferson Valley shows above normal accumulation for the season October through March.

MADISON RIVER: In the Madison River Basin, the snow pack on April 1 averages approximately 160% average. The Madison River at West Yellowstone will flow approximately 211,500 acre feet during May-September, or 124% average.

GALLATIN RIVER: The snow pack on the Gallatin River averages approximately 152% average for the past 14-16 years. The Gallatin River at Gateway will flow approximately 552,900 acre feet of water during May-September, with approximately 367,000 acre feet coming during May and June. These figures average about 145% of the past 10-year average.

MISSOURI RIVER MAIN STEM: The main Missouri below Three Forks will carry an excellent supply of water during the irrigation season, averaging above 136% of average.

SUN AND TETON RIVERS: The Teton River will flow somewhat less than average during the Spring season. The snow pack indicates an average of 93%. The North Fork of the Sun River snow courses show slightly below average while those on the South Fork show somewhat above average conditions. The Basin as a whole will average about 100%.

UPPER YELLOWSTONE RIVER: The Upper Yellowstone River, from the Park to Billings, is covered with an excellent snow pack averaging approximately 135% average. During the May-September runoff period, it is expected that 2,237,000 acre feet of water will pass Corwin Springs, or approximately 128% average. The Shields River snow courses show an excellent snow pack averaging approximately 160% average.

LOWER YELLOWSTONE RIVER (WYOMING): The Popo Agie River at the extreme southern portion of the Basin has an excellent snow pack this season, average being 183%. The North Fork of the Popo Agie should flow approximately 124,000 acre feet of water between April and September, or about 162% average. The main Wind River, above Diversion Dam, averages slightly below normal 85% average. The smaller tributaries lying to the south of the main Wind River show heavier snow pack, or 127% average. It is expected that the Wind River at Riverton will show 528,700 acre feet between April and September, or 99% average. The tributaries to the Big Horn River, below Boysen Dam, have a fair snow pack, showing 101% of the average conditions. The Shoshone River above Buffalo Bill has a fair snow pack averaging 120% and should produce approximately 917,000 acre feet of water below Buffalo Bill Reservoir during the April-September Runoff season.

TONGUE AND POWDER RIVERS (WYOMING): The Upper basins of the Tongue and Powder Rivers have a good snow pack this season, averaging close to normal for April 1; the Tongue, 113% average and 99% average for the Powder River. The Middle Fork of the Powder at Kaycee should flow 56,900 acre feet between April and September. The Tongue River should flow 133,680 acre feet past Dayton between April and September. Big Goose Creek should pass approximately 79,520 acre feet during the same period. All of the volumes of flow are between 110% and 123% average for the past ten years.

COLUMBIA RIVER BASIN: The tributaries to the Upper Columbia River in Montana above Herron show a generally good water supply for this coming season. The North Fork of the Flathead River Basin shows a snow coverage of approximately 110%. It is expected that 1,827,000 acre feet of water will pass Belton during the April-September season.

The Middle Fork of the Flathead above Belton will flow approximately 2,155,000 acre feet of water, or 134% average for the April-September period. The South Fork of the Flathead near Columbia Falls, just below Hungry Horse Dam, shows a good water supply; not as large as last year, nor the three years previous. It is expected that 2,751,000 acre feet of water will flow into the dam during the April-September period. This is 136% of the ten-year average ending in 1950. It is anticipated that the large portion of this water will flow in the April, June, July period than normal, being approximately 2,630,000 acre feet. The Flathead River at Columbia Falls should produce approximately 7,104,000 acre feet of water between April 1 and September 30.

The Clarks Fork River Basin, above Missoula, has a good snow pack for April 1, averaging approximately 135% average. By analyzing the comparative figures shown in the table for this basin, it is evident that at many snow survey courses, there is as much or more water in the snow as we had in 1948. This condition is somewhat spotted throughout both of the main tributaries to the Clarks Fork above Herron. This condition could, with the proper meterological sequence of events, produce as high water as we experienced in 1948. However, the past three years have been equally high and no severe damage occurred from the melting of high elevation snow. Volume forecasts for the April-September and April-July runoff seasons are listed on the following pages for the principal gaging stations on the tributaries and main stem for the Clarks Fork and Flathead River to the Idaho line at Herron.

APRIL 1, 1952

MISSOURI RIVER BASIN IN MONTANA
PRELIMINARY ESTIMATES OF SEASONAL RUNOFF
(1000's acre feet)

NAME OF STREAM AND STATION	Season May-June	Season July-Aug-Sept.	Season May-Sept.	10 yr. % Avg.
Gallatin River at Gallatin Gateway	367.5	185.4	552.9	145
Gallatin River at Logan	400.0	274.0	574.0	120
Madison River at West Yellowstone	119.8	91.7	211.5	124
North Fork Musselshell at Delphine	3.2	1.7	4.9	223
Judith River near Utica	48.1	25.0	73.1	176
Yellowstone River at Corwin Springs	1,322.0	915.3	2,237.3	128
Big Hole at Melrose	481.0	168.9	650.8	98
LOWER YELLOWSTONE RIVER (WYOMING)	April-June	April-September	10 yr. %Avg.	
Little Popo Agie at Hudson		106.9		187
North Fork Popo Agie near Lander	84.4	124.0		162
Wind River at Riverton	267.5	528.7		99
Shoshone River below Buffalo Bill	489.9	916.8		141
Shoshone River near Byron	320.0	620.0		130
Middle Fork Powder near Kaycee	46.8	56.9		71
Tongue River near Dayton	105.5	133.7		117
Tongue River at Acme	295.0	330.0		123
Goose Creek near Sheridan	67.1	79.5		110

APRIL 1, 1952

COLUMBIA RIVER BASIN IN MONTANA
PRELIMINARY ESTIMATES OF SEASONAL RUNOFF
(1000's acre feet)

NAME OF STREAM AND STATION	Season April-July	10 yr. % Avg.	Season April-Sept.	10 yr. % Avg.
North Fork Flathead near Belton	1,679.00	112	1,827.00	108
Middle Fork Flathead near Belton	2,039.70	136	2,155.70	134
South Fork Flathead near Columbia Falls	2,630.00	129	2,751.60	136
Flathead River At Columbia Falls	6,499.90	129	7,104.00	130
Flathead River at Polson (full natural)	7,118.00	149	7,717.00	120
Clark Fork above Bonner	805.00	146	972.00	135
Black Foot at Bonner	996.00	141	1,074.00	137
Clark Fork above Missoula	1,801.00	138	2,046.00	134
Bitterroot River at Darby	683.00	146	721.40	142
Clarks Fork below Missoula	3,148.00	115	3,424.00	112
Clarks Fork at St. Regis	4,228.00	138	4,568.00	113
Clarks Fork at Plains	11,713.00	133	12,686.00	128
Clark Fork at Herron	13,143.00	144	14,232.00	139

DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. Bennett, Chief

DIVISION OF RESEARCH
M. L. Nichols, Chief
Washington, D. C.

INDEX TO MONTANA & NORTHERN WYOMING SNOW COURSES

Drainage Basin and Course Name	Montana Number	Elev.	Location: Sec. Lat.	Twp.	Range Long.	Record Began	Measuring Dates[a]	Measured By:[b]
MISSOURI RIVER DRAINAGE								
JEFFERSON RIVER								
(RED ROCK-BEAVERHEAD)								
Lakeview Ridge	11E3	7400	27	14S	2W	1948	3,4,5	9
Lakeview Canyon	11E4	6930	26	14S	2W	1948	3,4,5	9
Limekiln	12E2	6950	5	15S	9W	1948	3,4	1
White Pine Ridge	12E1	8850	18	14S	9W	1948	3,4	1
(HORSE PRAIRIE)								
Bloody Dick	13D16	7600	12	8S	16W	1948	3,4	1
Cold Stone	13D9	8100	11	8S	16W	1948	3,4	1
Lemhi Pass	13[illegible]1	7480	9	10S	15W	1948	3,4	1
Terrell Creek	13D12	6650	14	9S	15W	1948	3,4	1
Trail Creek	13[illegible]2	7090	15	10S	15W	1948	3,4	1
Selway Junction	13D11	6800	27	8S	15W	1948	3,4	1
(BIG HOLE)								
Big Hole Pass	13D3	7440	28	3S	18W	1948	3,4	1
Big Hole Pass (Below)	13D4	6900	24	3S	18W	1948	3,4	1
East Boundary	13D5	6700	22	3S	17W	1948	3,4	1
Gibbons Pass	13D2	7100	4	2S	19W	1934	2,3,4,5	1,2
Jahnke Creed	13D8	7340	25	7S	16W	1948	3,4	1
Miner Forks	13D6	7300	24	6S	17W	1948	3,4	1
Miner Lake	13D7	6720	10	6S	16W	1945	3,4,5	1
(WISE RIVER)								
Anderson Mdw.	13D14	7000	18	3S	12W	1948	3,4	1
Elk Horn	13D15	8450	15	4S	12W	1934	3,4,5	2
Wise River	13D13	6300	15	2S	12W	1948	3,4	1
(RUBY RIVER)								
Cottonwood	11[illegible]	5900	24	10S	3W	1948	3,4	1
Cottonwood (Upper)	[illegible]	8400	30	10S	2W	1948	3,4	1
Fleshlight	12D3	6950	22	8S	7W	1945	3,4,5	1
Tobacco Root	12D2	6900	13	4S	3W	1948	3,4	1
Vigilante	11D1	6125	28	9S	3W	1948	3,4	1
MADISON RIVER								
Hebgen	11[illegible]5	6550	22	11S	3E	1934	1,2,3,4,5	2
West Yellowstone	11E7	6700	34	13S	5E	1934	1,2,3,4,5	2
Norris Basin	10E2	7500	44°-44'		110°-42'	1935	3,4	5,6
GALLATIN RIVER								
Devil's Slide	10D4	8100	14	5S	6E	1935	3,4,5	2,6
Wood Meadow	10D3	6600	22	4S	6E	1934	3,4,5	2,6
Mystic Lake	10D2	6600	30	3S	7E	1935	2,3,4	6,7
New World	10D1	6700	24	3S	6E	1939	2,3,4,5	6,7
21-Mile	11E6	7150	1	11S	5E	1934	1,2,3,4,5	2
MISSOURI RIVER MAIN STEM								
Chessman Reservoir	12C5	6200	2	8N	5W	1936	1,2,3,4,5	2
Crystal Lake	9C1	6100	24	12N	17E	1941	3,4	1
Grasshopper	10C2	7000	19	9N	8E	1938	3,4	1
Kings Hill	10C1	7950	35	13N	7E	1937	3,4,5	2
Picnic Grounds	12C6	6500	22	5N	6W	1940	2,3,4	3
Pipestone Pass	12D1	7200	11	1N	7W	1938	2,3,4,5	1
Stemple Pass	12C1	6900	16	13N	7W	1934	3,4,5	2
Ten Mile Creek, Lower	12C2	6250	13	8N	6W	1935	1,2,3,4,5	2
Ten Mile Creek, Middle	12C3	6800	13	8N	6W	1934	1,2,3,4,5	2
Ten Mile Creek, Upper	12C4	8000	19	8N	5W	1935	1,2,3,4,5	2
(TETON RIVER)								
Freight Creek	12A1	6000	13	26N	10W	1948	3,4	1
Waldron Creek	12B2	5600	16	25N	9W	1948	3,4	1
West Fork	12B1	6000	6	25N	9W	1948	3,4	1
(SUN RIVER)								
Bench Mark	12B8	5500	9	20N	10W	1948	3,4	1
Cabin Creek	12B6	5400	33	23N	10W	1949	3,4	1
5-Bull	12B9	5600	36	20N	10W	1948	3,4	1
Gates Park	12B5	5300	31	24N	10W	1949	3,4	1
Goat Mountain	12B7	7000	20	22N	10W	1934	3,4	2
My Lake	13B9	7300	21	23N	12W	1950	3,4	1
Wrong Creek Ridge	12B3	6800	17	25N	10W	1949	3,4	1
Wrong Creek	12B4	5700	32	25N	10W	1949	3,4	1
(MARIAS RIVER)								
Marias Pass	13A5	5250	34	30N	14W	1936	1,2,3,4,5	2
Snow Lab. #16	13A9	5200	15	29N	14W	1947	1,2,3,4,5	2
(MILK RIVER)								
Rocky Boy	9A1	5200	15	28N	16E	1941	3,4	7
(MUSSELSHELL RIVER)								
Grasshopper	10C3	7000	19	9N	8E	1938	3,4	1
UPPER YELLOWSTONE)								
Camp Senia	9D1	7890	2	8S	18E	1037	4	1
Canyon	10E3	7750	44°-44'		110°-30'	1938	1,2,3,4,5	12
Cooke City	10D7	7400	25	9S	14E	1937	1,2,3,4,5	5
Crevice Mt.	10D5	8400	29	9S	9E	1935	3,4	1
Independence	10D6	8000	22	7S	12E	1941	3,4	12
Lake Camp	10E4	7850	44°-34'		110°-24'	1937	1,2,3,4,5	12
Lupine Creek	10E1	7300	44°-54'		110°-37'	1938	1,2,3,4,5	5
(SHIELDS RIVER)								
Porcupine	10C3	6500	10	4N	10E	1938	3,4	1
LOWER YELLOWSTONE								
(Wind River) Wyoming								
Brooks Lake #3	10F2	9200	23	44N	110W	1939	2,3,4,5	12
Burroughs Creek	9F6	8800	15	43N	107W	1948	2,3,4,5	12
Dinwoodie	9F10	10000	9	38N	105W	1948	2,3,4,5	12
Dry Creek	9F9	9500	34	4N	105W	1948	2,3,4,5	12
DuNoir	9F2	8750	27	42N	108W	1940	2,3,4,5	12
Geyser Creek	9F3	8500	12	41N	108W	1948	2,3,4,5	12
Nobbs Park	9G2	10000	22	2S	3W	1948	2,3,4,5	12
Little Warm	9F4	9500	24	41N	108W	1948	2,3,4,5	12
Mosquito Park R.S.	9G3	9500	23	2S	3W	1940	2,3,4,5	12
Sheridan R.S.	9F1	7500	3	42N	109W	1939	2,3,4,5	12
St. Lawrence R.S.	9F11	9000	26	1N	4W	1940	2,3,4,5	12
T-Cross Ranch	9F5	8000	1	43N	107W	1940	2,3,4,5	12
Trout Creek	9C1	8400	5	2S	2W	1948	2,3,4,5	12
Togwotee Pass	10F1	9600	29	44N	110W	1936	2,3,4,5	10
(Popo Agie River) Wyoming								
Blue Ridge	8G2	9500	23	31N	101W	1939	2,3,4,5	12
Grannier Meadows	8G4	9000	19	30N	100W	1936	2,3,4,5	12
Larsen Creek	9G4	9000	12	30N	103W	1948	3,4,5	12
Sawmill Glade	8G1	8500	3	31N	101W	1939	2,3,4,5	12
South Pass	8G3	9000	13	30N	101W	1939	2,3,4,5	12
MISSOURI RIVER DRAINAGE CONT.								
BIG HORN RIVER Wyoming								
Beavers Mill	9F8	8900	6	43N	102W	1948	2,3,4,5	12
Owl Creek	8F1	8700	36	43N	101W	1948	2,3,4,5	12
Tensleep R.S.	7E3	8300	30	49N	86W	1935	4,5	1
Timber Creek	9E2	8800	25	47N	103W	1948	4,5	12
Ranger Creek	7E1	8800	32	53N	88W	1935	4,5	1
Wood River	9F7	8000	28	46N	103W	1939	2,3,4,5	12
(SHOSHONE RIVER) Wyoming								
East Entrance	10E6	7000	17	52N	109W	1948	1,2,3,4,5	5
Sylvan Pass	10E5	7100	12	52N	110W	1936	1,2,3,4,5	5
TONGUE RIVER Wyoming								
Big Goose	7E2	7700	4	53N	86W	1935	2,3,4,5	1
Burgess Ranger Sta.	7E4	7900	36	56N	89W	1950	2,3,4,5	12
Dome Lake	7E5	8800	11	53N	87W	1950	2,3,4,5	12
Lodgepole	9E1	8[illegible]	32	56N	106W	1940	4,5	1
POWDER RIVER								
North Powder	7E8	8500	5	47N	85W	1951	2,3,4,5	12
Muddy Pass	7E7	9700	11	48N	85W	1950	2,3,4,5	1
Soldier Park	7E6	8700	36	51N	85W	1950	2,3,4,5	12
Sour Dough	6E1	8500	17	49N	84W	1936	2,3,4,5	1
Red Fork	7E1	7000	18	43N	85W	1936	2,3,4,5	12
COLUMBIA RIVER BASIN								
KOOTENAI RIVER								
Baree Mountain	15B1	6000	1	25N	31W	1937	4,5	1
Blue Bird Basin	14A1	6800	24	37N	26W	1937	4,5	1
Red Mountain	15A1	6000	4	36N	29W	1937	3,4,5	1
FLATHEAD RIVER								
Basin Creek	13B14	5000	11	19N	12W	1951	2,3,4,5	1
Big Creek	13B3	6750	6&7	22N	18W	1941	3,4,5	4
Brush Creek	14A4	5000	13	30N	26W	1937	3,4,5	1
Cattle Queen	13A1	4700	7	35N	17W	1939	3,4,5	5
Desert Mountain	13A2	5600	24	31N	19W	1937	1,2,3,4,5	1
HellRoaring Divide	14A3	5770	35	32N	22W	1942	3,4,5	1
Hulbrook	13B13	4530	18	21N	13W	1951	2,3,4,5	1
Kishenehn	14A2	4300	7	37N	21W	1946	4,5	5
Limestone Pass	13B8	7000	28	18N	12W	1948	3,4,5	1
Logan Creek	14A5	4300	34	30N	24W	1937	3,4,5	1
Marias Pass	13A5	5250	34	30N	14W	1934	1,2,3,4,5	2
Snow Lab. #16	13A9	5200	15	29N	14W	1946	1,2,3,4,5	2
Spotted Bear Mt.	13B2	7000	23	25N	15W	1948	3,4,5	1
Strawberry Lake	13B10	6500	11	28N	19W	1948	3,4,5	1
Trinkus Lake	13B1	6500	9	25N	17W	1948	3,4,5	1
Trout Lake #2	13B12	3600	21	28N	17W	1948	3,4,5	1
Upper Holland Lake	13B5	7000	28	20N	16W	1948	3,4,5	1
Twin Creeks	13B11	3580	14	26N	16W	1951	2,3,4,5	1
Quintonkon	13B13	3800	11	26N	17W	1951	2,3,4,5	1
UPPER CLARK FORK								
El Dorado Mine	13C9	7800	23	8N	12W	1946	4	11
Gold Creek Lake	13C8	7200	14	8N	12W	1946	4	11
Intergaard	13C4	6450	6	5N	13W	1939	2,3,4	3
North Fork Jocko	13B7	6330	3	17N	17W	1941	3,4,5	4
Picnic Grounds	12C6	6500	22	5N	6W	1940	2,3,4	3
Pipestone Pass	12D1	7200	11	1N	7W	1938	2,3,4,5	1
Rainy Lake	13B6	4300	11	18N	16W	1947	3,4,5	1
Slide Rock Mountain	13C2	7100	26	10N	16W	1937	4	1
Southern Cross	13C5	6500	9	5N	13W	1939	2,3,4	3
Stemple Pass	13C1	6900	16	13N	7W	1934	3,4,5	2
Storm Lake No. 2	12C7	7780	19	4N	13W	1939	4	1
Stuart Mill	13C6	6500	19	5S	13W	1939	2,3,4	3
Stuart Mountain #1	13C1	7400	6	14N	18W	1936	4	1
Coyote Hill	13B10	4200	12	18N	16W	1951	3,4,5	1
PEND OREILLE RIVER								
Saree Mountain	13B1	6000	1	25N	31W	1937	4,5	1
Freezeout Submit #2	15C10	6800	21	15N	27W	1951	4	1
Hoodoo Creek	13C1	6200	9&16	14N	27W	1937	4	1
BITTERROOT RIVER								
East Fork Ranger Stn.	13D1	5400	16	2N	17W	1937	4	1
Gibbons Pass	13D2	7100	4	2S	19W	1934	2,3,4,5	1
Mud Creek Pasture	14C1	4500	24	11S	21W	1937	3	1
Nezperce Camp	14D2	5580	19&20	1S	23W	1937	4	1
Nezperce Pass	14D1	6575	32	28N	16E	1937	4	1
Skalkaho Summit	13C3	7259	30	6S	17W	1937	4	1
SASKATCHEWAN RIVER BASIN								
ST. MARY RIVER								
Iceberg Lake	13A3	6000	48°-50'		113°-42'	1922	5	2,8
Piegan Pass #4	13A4	5000	48°-46'		113°-40'	1922	5	2,8
Piegan Pass #6	13A6	6500	48°-45'		113°-42'	1922	5	2,8
Mount Allen #7	13A7	7000	48°-44'		113°-40'	1922	5	2,8
Ptarmigan #8	13A8	5800	48°-50'		113°-42'	1922	5	2,8

a. Numerals 1,2,3,4, and 5 refer to January 1, February 1, March 1, April 1, and May 1

b. Numerals refer to Agency that secures the snow survey as follows:

1. U.S. Forest Service
2. U.S. Geological Survey and U.S. Engineer Corps
3. Montana Power Company
4. U.S. Indian Service
5. National Park Service
6. Montana Experiment Station
7. City of Bozeman
8. Dominion Water and Power Bureau
9. U.S. Fish and Wildlife Service
10. U.S. Bureau of Reclamation
11. Deerlodge Citizens Committee
12. Soil Conservation Service

5,8-11,464-A

SUPPLEMENTAL INDEX LIST OF SNOW SURVEY COURSES
IN ADJACENT BASINS, USED IN THIS REPORT AND
SHOWN ON THE INDEX MAP

DRAINAGE AND SNOW COURSE	Adj. State No.	Montana Number	Elev. Feet	Section Lat.	Twp	Range Long.	Record Began	Measurement Dates	Measured By
JEFFERSON	Idaho								
Kilgore	10	11E12	6200	6	12N	39E	1937	1,2,3,4,5	pd.obs
Blue Ridge Mine	5	11E11	6700	27	13N	38E	1938	4	pd.obs
Camp Creek	6	12E3	6800	21	13N	36E	1936	1,2,3,4	1
Moose Creek	8	13D16	6200	22-27	27N	21E	1937	3,4,5	1
Big Springs	3	11E9	6500	34	19N	44E	1936	1,2,3,4,5	10
Island Park	9	11E10	3600	28	13N	43E	1936	1,2,3,4,5	10
Valley View	17	11E8	6500	7	15N	44E	1936	1,2,3,4	10
UPPER YELLOWSTONE	Wyo.								
Lewis Lake Div.	9	10E9	7900	44-13	110-40		1919	1,2,3,4	10
Aster Creek	2	10E8	7700	44-17	110-37		1919	1,2,3,4	10
Tom Thumb Summit		10E7	7900	44-22	110-35		1949	3,4	10
LOWER YELLOWSTONE (Wind River)	Wyo.								
Togwotee Pass	12	10F1	9600	29	44N	110W	1936	2,3,4,5	10
Kendall	25	9F12	7900	23	38N	110W	1936	3,4,5	1
Loomis Park	26	10F4	8500	14	37N	111W	1942	3,4,5	1
Yellow Jacket	14	10F5	6775	33	42N	112W	1936	3,4,5	1
Black Rock	2	10F3	8600	4	44N	111W	1936	2, 4	10
Dutch Joe	23	9G6	8700	32	31N	104W	1936	4,5	1
Mulligan Park	24	9G5	8900	17	35N	108W	1936	3,4,5	1
KOOTENAI	Idaho								
Smith Creek	13	16A1	4800	29	64N	3W	1937	4,5	1
	Canada								
Fernie	10		3500	49-31	115-01		1939		
Fernie Ridge	68		5600	49-31	115-00		1952		
New Fernie	10A		4100						
Gray Creek	34		5100	39-37	116-41		1948		
Kimberly	20		3800	49-41	115-59		1945		
Marble Canyon	32		5000	51-12	116-09		1947		
Nelson Creek	19		3050	44-25	117-14		1938		
Sinclair Pass	8A		4500	50-40	115-58		1947		
Sullivan Mine	20A		5100	49-43	116-01		1945		
Upper Elk River	41		4400	50-01	114-56		1947		
UPPER CLARK FORK	Idaho								
Coyote Hill	13B11		4200	12	18N	16W	1952	3,4,5	1
49 Meadows	1	15B10	5000	6	43N	5E	1937	1,2,3,4,5	1
Lookout	10	15B2	5250	4	47N	6E	1921	1,2,3,4,5	1
PEND OREILLE	Idaho								
Mosquito Ridge	9	16A4	5110	5	54N	2E	1937	4,5	1
Freezout #2		15B10	6800	21	15N	27W	1951	3,4	1
BITTERROOT	Idaho								
Moose Creek	8	13D16	6200	22-27	27N	21N	1937	3,4,5	1
Kit Carson	3	14D3	4700	4	27N	16E	1937	4	1
Savage Pass	7	14C4	6000	18	36N	15E	1937	4	1
Powell Pasture	6	15C3	3700	27	27N	14E	1937	4	1
Packers Mdw.	5	14C2	5700	15	38N	15E	1937	2,3,4,5	1

STORAGE IN RESERVOIRS OF MONTANA APRIL 1, 1952

MISSOURI RIVER BASIN — Reservoir Volumes in 10,000's a.f.

RESERVOIR	Location on or diversion from	Usable Capacity	Contents This Yr. Apr. 1 1952	Contents Last Yr. Apr. 1 1951	10-yr. Average Apr. 1 1941 to 1950
Lima Reservoir	Beaverhead	84.00	35.04	---	37.18
Ruby Reservoir	Ruby River	38.85		---	26.70
Willow Creek Reser.	Willow Creek	17.76		---	21.17
Hebgen Lake	Madison River	345.00	225.20	232.40	230.00
Ennis Lake	Madison River	41.00	38.73	36.02	34.15
Middle Creek Reser.	Hyalite Creek			---	---
Lake Sewall	Missouri River	37.80	20.57		31.21
Hauser Lake (inc. Lake Helena)	Missouri Riv.	62.50	38.01		42.72
Lake Helena	Missouri River	10.45	3.00		52.90
Holter Lake	Missouri River	81.92	37.56	74.43	50.16
Gibson Reservoir	N.Fk. Sun River	105.00	66.92	80.61	64.28
Willow Creek Res.	N.Fk. Sun River	32.30	25.46	2.60	12.98
Pishkun Reservoir	N.Fk. Sun River	32.00	23.04	18.91	17.34
Bynum Reservoir	Teton River			---	---
Lower Two Medicine Lake	Two Medicine River	14.00	0.0	0.0	0.0
Four Horns Lake	Badger Creek	20.00	8.58		7.84
Swift Reservoir	Birch Creek	30.00		30.05	23.05
Lake Francis	Dupuyer & Birch Cr.	112.00		96.54	82.50
Ackley Lake	Judith River	5.82		4.06	4.36
Durand Reservoir	N.Fk. Musselshell	7.01			5.42
Martinsdale Reservoir	S.Fk. Musselshell	23.10		12.08	10.28
Deadman Basin Reservoir	Musselshell River	52.50		---	37.52
Fort Peck Reservoir	Missouri River	19,000.00	12,390.00	12,960.00	9,814.30
Fresno Reservoir	Milk River	127.20		99.88	63.00
Nelson Reservoir	Milk River	66.80	37.02	15.67	29.15
Mystic Lake	W. Rosebud Creek	20.80	4.63	5.25	5.73
Cooney Reservoir	Red Lodge Creek	27.50		14.05	17.43
Tongue River Reservoir	Tongue River	73.90		8.98	19.06
Cherburne Lake	Swiftcurrent Cr.	66.10	19.42	8.98	23.97
YELLOWSTONE RIVER BASIN, WYOMING					
Buffalo Bill Reservoir	Shoshone River	456.60	202.29	269.1	342.15
Boysen Reservoir	Wind River	819.80	152.40	---	1st yr.
Pilot Butte Reservoir	Wind River	30.10	13.55	13.8	17.01
Bull Lake Reservoir	Wind River (Bull Creek)	155.00	61.20	79.5	53.18
COLUMBIA RIVER BASIN					
Georgetown Lake	Flint Creek	31.00	20.91	19.92	22.11
E.Fk. Rock Creek Res.	E.Fk. Rock Creek	16.04		---	---
Nevada Creek Res.	Nevada Creek	12.60			
W.Fk. Bitterroot Res.	W. Fk. Bitterroot Riv.	31.70		1.00	7.66
Como Lake	Rock Creek	34.80	13.60	19.89	13.86
Hungry Horse Reservoir	So.Fk. Flathead Riv.	3,000.00	68.08	---	1st yr.
Flathead Lake	Flathead River	1,791.00	572.30	651.60	586.03
Little Bitterroot	Little Bitterroot*	36.10	36.12	35.66	12.50
Dry Fork Reservoir	Dry Fork Creek*	6.70	4.81	5.14	2.73
Mission Valley Reservoir	Flathead Irr. Project**	98.60	49.86	52.48	38.68
Lower Jocko Lake	Jocko Creek	7.6	.41	---	---

*Sum of two reservoirs on Little Bitterroot
*Sum of two reservoirs on Dry Fork Creek
**Sum of (8) eight reservoirs on Project

PRECIPITATION DATA FOR APRIL 1, 1952
MONTANA

Station	Elevation	1951 Precipitation Oct.	Nov.	Dec.	1952 Jan.	Feb.	Mar.	1952 Dept. from Normal	Accumulated Precipitation 1951-52	Normal	Departure
WEST OF DIVIDE											
Fortine	3000	3.63	.92	2.49	1.39	0.79				8.00	
Butte (Airport)	5533	0.96	.40	1.18	.29	0.85	1.46	+0.82	5.14	3.13	+2.01
Phillipsburg	5280	.63	.66	2.12	.26	0.98	1.12	+0.14	5.77	5.03	+0.74
Hamilton	3529	1.14	.77	1.41	.31	0.94	0.39	-0.44	4.96	4.66	+0.30
West Glacier	3154	4.92	2.25	4.25	2.51	1.29	1.13	-0.53	16.35	15.11	+1.24
Summit (Marias)	5213	6.20	3.20	4.65	4.35	2.15	2.55	-0.73	23.10	17.54	+5.56
Ovando 1 SW	4101	1.57	1.37	2.08	.71	0.93	1.13	-0.13	7.79	8.71	-0.82
Trout Creek	2485	6.50	3.11	4.74	3.81	2.30	1.71	-1.34	22.17	19.77	+2.40
Thompson Falls	2435	3.29	2.16	1.89	.82	1.17	0.44	-1.49	9.77	11.57	-1.80
Average (8)		3.15	1.74	2.79	1.63	1.27	1.24	-0.39	11.88	10.39	+1.49
CENTRAL DIVISION											
Babb	4300	2.91	.24	1.49	.25	0.89	0.48	-0.63	6.26	5.98	+0.28
Havre	2488	1.00	.25	1.02	.42	0.81	0.47	-0.04	3.97	3.63	+0.34
Great Falls (Airport)	3664	1.72	.41	1.06	.34	1.63	0.76	-0.10	5.92	4.23	+1.69
Helena (Airport)	3893	.79	.31	1.08	.15	0.56	1.27	+0.48	4.16	3.27	+0.89
Lewistown (Airport)	4132	1.68	.67	1.50	.39	0.78	0.48	-0.55	5.50	3.33	+2.17
Livingston	4485	3.74	.48	1.05	1.08	1.00	0.57	-0.29	7.57	4.15	+3.42
Wisdom	6058	1.74	.57	1.50	.19	1.06	0.99	+0.17	5.78	4.57	+1.21
West Yellowstone	6669	3.66	1.66	3.83	3.34	1.75	2.05	-0.17	16.29	12.72	+3.57
Mystic Lake	6558	3.58	.75	1.66	1.22	1.30	1.36	-0.69	9.87	8.73	+1.14
Average (9)		2.21	.59	1.53	.85	1.09	0.94	-0.20	7.26	5.66	+1.60
EASTERN DIVISION											
Malta	2255	.92	.03	.46	.41	0.69	0.53	+0.01	3.04	2.98	+0.06
Ft. Peck	2180	.53	.27	.55	.17	1.06				2.65	
Medicine Lake	1962	.49	.07	.27	.22	0.48	0.33	-0.08	1.86	2.40	-0.54
Circle	2428	.73	.22	—	—	—	0.15	-0.85		4.45	
Billings #2	3139	.86	.16	.55	.19	0.48	0.45	-0.39	2.69	4.44	-1.75
Miles City	2392	.69	.46	1.14	.42	0.92	0.58	-0.28	4.21	4.11	+0.10
Glendive	2076	.63	.38	.60	.25	1.23	0.66	-0.18	3.75	3.59	+0.16
Broadus	3026	1.78	.64	.79	.14	0.63	0.70	-0.02	4.68	3.76	+0.92
Average (8)		.83	.28	.62	.27	.78	0.49	-0.22	3.37	3.55	-0.18

*Note: Figures without a minus sign (-) are plus

PRECIPITATION DATA FOR APRIL 1, 1952
NORTHERN WYOMING

Station	Elevation	1951 Precipitation Oct.	1951 Precipitation Nov.	1951 Precipitation Dec.	1952 Jan.	1952 Feb.	Mar.	1952 Dept. from Normal	Accumulated Precipitation 1951-52	Accumulated Precipitation Normal	Accumulated Precipitation Departure
BIG HORN RIVER BASIN											
Cody	4984	1.14	0.39	0.30	0.30	0.35	0.51	-0.02	2.99	2.69	+0.30
Lovell	3825	1.09	0.12	0.39	0.22	0.17	0.41	+0.05	2.40	2.24	+0.16
Worland	4061	0.31	0.09	0.10	0.41	0.19	0.17	-0.25	1.27	2.35	-1.08
Sunshine 4 SW	6930	1.82	0.16	0.18	0.07	0.94				5.29	
Thermopolis	4336	0.93	0.28	0.29	0.13	1.13	0.20	-0.71	2.96	3.86	-0.90
Riverton	4954	0.67	0.09	0.25	0.05	0.47	0.47	-0.02	2.00	2.73	-0.73
Dubois	6917	0.24	0.12	0.53	0.35	0.38	0.23	-0.31	1.85	3.01	-1.16
Average		0.89	0.18	0.29	0.24	0.52	0.33	-0.31	2.24	3.17	-0.93
TONGUE RIVER BASIN											
Sheridan	4021	1.37	0.15	0.68	0.15	1.39	0.85	-0.31	4.59	5.05	-0.46
POWDER RIVER BASIN											
Arvada	3680	0.58	0.18	0.45	0.05	0.50	0.61	-0.14	2.37	3.36	-0.99
Metz Ranch	5280	0.95	0.11	0.19	0.12	0.30	0.73	-0.10	2.40	3.46	-1.26
Gillette	4542	1.06	0.50	0.40	0.40	0.50	0.85	-0.18	3.71	4.46	-0.75
Nine Mile Creek	5000	0.49	0.35	0.18	0.30	0.77					
Mid West	4850	0.41	0.16	0.78	0.03	0.66	0.70	-0.39	2.74	4.40	-1.36
Average		0.70	0.26	0.40	0.15	0.46	0.72	-0.19	2.80	3.79	-0.99

*Note: Figures without a minus sign (-) are plus

MONTANA SNOW SURVEYS APRIL 1, 1952

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Water Content (Inches) Apr. 1 1952	Past Records 1951	1950	1949	1948	Average Date Apr. 1 Avg.	%Avg.	Years
JEFFERSON RIVER												
(Rock-Beaverhead)												
Lakeview Ridge	11E3	7400	Apr. 1	58	11.1	10.1	11.6	10.0	10.0	10.6	105	5
Lakeview Canyon	11E4	6930	Apr. 1	65	14.6	11.3	10.3	12.7	11.3	12.0	122	5
Limekiln	12E2	6950	Mar. 11	11	2.8	0.0	.8	4.1	2.8	2.1	138	5
White Pine Ridge	12E1	8850	Mar. 11	31	8.7	4.4	7.2	7.2	7.8	7.1	123	5
*Kilgore	11E12	6200	Mar. 31	49	17.1	8.6	15.5	11.0	8.4	10.7	160	16
*Camp Creek	12E3	6800	Mar. 30	60	23.1	8.3	13.9	10.7	8.0	8.9	266	15
*Blue Ledge Mine	11E11	6700	Mar. 31	81	29.7	14.9	26.1	16.7	10.9	15.7	189	15
(Horse Prarie)												
Bloody Dick	13D10	7600	Mar. 15	44	11.8	15.4	11.6	15.2	10.2	12.8	92	5
Gold Stone	13D9	8100	Mar. 15	54	16.6	20.5	15.2	19.0	13.0	16.9	98	5
Lemhi Pass	13E1	7400	Mar. 13	42	11.5	12.5	9.5	11.8	11.2	11.1	103	5
Terrell Creek	13D12	6650	Mar. 12	24	5.0	6.8	3.0	6.0	3.6	4.9	102	5
Trail Creek	13E2	7090	Mar. 13	39	8.8	10.8	7.4	10.4	10.5	9.6	92	5
Selway Junction	13D11	6500	Mar. 12	36	9.8	11.6	7.5	12.8	6.8	9.7	101	5
(Big Hole)												
Big Hole Pass	13D3	7440	Mar. 16	62	23.4	21.1	18.2	24.5	14.9	20.4	115	5
Big Hole Pass (Below)	13D4	6900	Mar. 16	53	17.4	17.6	15.4	19.6	12.4	16.5	105	5
East Boundary	13D5	6700	Mar. 16	36	9.6	12.5	8.8	11.8	7.5	10.0	96	5
Gibbons Pass	13D2	7100	Mar. 25	86	45.7	28.3	30.0	29.0	23.0	22.8	201	14
Jahnke Creek	13D8	7340	Mar. 15	44	13.3	14.0	10.8	14.4	9.1	12.3	108	5
Miner Forks	13D6	7300	Mar. 14	47	14.4	17.3	11.4	13.8	10.4	13.5	107	5
Miner Lake	13D7	6720	Mar. 14	37	9.9	10.2	7.6	10.6	7.6	8.4	118	8
*Moose Creek	13D16	6200	Mar. 28	62	22.0	18.0	18.4	21.2	18.6	15.5	147	16
(Wise River)												
Anderson Meadow	13D14	7000	Mar. 18	38	11.2	10.0	8.3	10.6	6.9	9.4	119	5
Elk Horn	13D15	8450	Mar. 31	47	12.5	12.7	10.0	13.6	9.4	9.2	136	14
Wise River	13D13	6300	Mar. 18	25	6.3	5.6	5.2	7.4	4.8	5.9	107	5

* Adjacent Basin

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Water Content (Inches) Apr. 1 1952	Past Records 1951	1950	1949	1948	Average Data Apr. 1 Avg.	%Avg.	Years
JEFFERSON RIVER (CONT'D)												
(Ruby River)												
Cottonwood	11E2	5900	Mar. 22	44	13.2	8.8	11.5	11.9	7.3	10.5	126	5
Cottonwood (Upper)	11E1	8400	Mar. 22	46	14.6	10.2	12.1	11.6	8.5	11.4	128	5
Flashlight	12D3	6950	Apr. 4	21	6.2	5.7	4.2	6.7	5.9	5.5	113	8
Tobacco Root	12D2	6900	Mar. 21	44	13.6	10.4	11.4	13.3	10.8	11.9	114	5
Vigilante	11D1	6125	Mar. 22	11	3.6	0.0	1.1	0.0	2.2	1.4	257	5
MADISON RIVER												
Hebgen	11E5	6550	Mar. 26	67	19.6	10.9	14.0	14.6	11.7	12.1	160	17
West Yellowstone	11E7	6700	Mar. 27	57	18.9	13.9	14.2	14.4	9.0	11.2	169	16
21-Mile	11E6	7150	Mar. 27	80	28.6	19.2	21.0	20.6	14.4	16.5	173	16
*Big Springs	11E9	6500	Mar. 28	91	34.7	22.4	25.9	27.8	18.1	20.5	169	17
*Island Park	11E10	3600	Mar. 27	82	30.4	17.6	21.6	22.5	13.8	15.4	197	17
*Valley View	11E8	6500	Mar. 28	81	30.0	14.9	19.5	18.8	12.8	14.6	205	17
Norris Basin	10E2	7500	Apr. 1	45	12.7	9.0	--	10.3	8.6	9.1	140	15
GALLATIN RIVER												
Devil's Slide	10D4	8100	Mar. 31	88	27.5	19.9	20.2	21.0	27.4	19.8	139	14
Hood Meadow	10D3	6600	Mar. 31	51	13.7	9.4	7.3	10.9	13.3	8.4	163	14
Mystic Lake	10D2	6600	Mar. 29	29	10.0	8.1	8.4	10.7	8.1	7.5	133	16
New World	10D1	6700	Mar. 29	50	13.1	10.6	10.8	11.4	16.0	10.0	131	14
21-Mile	11E6	7150	Mar. 27	80	28.6	19.2	21.0	20.6	14.4	16.5	173	16
MISSOURI RIVER MAIN STEM												
Chessman Reservoir	12C5	6200	Mar. 27	28	6.7	4.6	4.4	7.6	9.2	4.6	146	17
Crystal Lake	9C1	6100	Mar. 29	53	16.4	10.6	10.5	15.4	16.3	12.0	137	12
Grasshopper	10C2	7000	Mar. 31	32	8.4	4.0	5.8	8.1	6.8	5.1	164	15
Kings Hill	10C1	7950	Mar. 26	58	17.0	13.7	17.1	16.9	13.1	13.2	129	14

* Adjacent Basin

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Water Content (Inches) Apr. 1 1952	Past Records 1951	1950	1949	1948	Average Data Apr. 1 Avg.	%Avg.	Years
MISSOURI RIVER MAIN STEM (Cont'd)												
Picnic Grounds	13C6	6500	Mar. 31	24	6.0	5.6	2.6	7.6	4.7	4.2	143	8
Pipestone Pass	12D1	7200	Mar. 31	34	7.6	6.8	4.2	7.9	7.4	5.7	133	14
Stemple Pass	12C1	6900	Mar. 27	50	13.4	11.1	11.6	13.5	10.3	9.5	141	14
Tenmile, Lower	12C2	6250	Apr. 1	36	9.4	8.3	7.6	8.8	9.1	6.4	147	17
Tenmile, Middle	12C3	6800	Apr. 1	48	13.0	12.0	12.8	12.8	14.1	10.3	126	17
Tenmile, Upper	12C4	8000	Apr. 1	56	15.8	15.4	15.8	14.8	18.1	13.2	120	17
(Teton River)												
Fright Creek	12A1	6000	Mar. 26	55	18.1	22.3	22.3	17.9	13.4	18.8	96	5
Waldron Creek	12B2	5600	Mar. 29	23	7.2	9.4	10.7	9.5	6.0	8.6	84	5
West Fork	12B1	6000	Mar. 29	53	19.6	21.0	24.6	19.9	13.6	19.7	99	5
(Sun River)												
Benchmark	12B8	5500	Mar. 24	36	11.6	12.3	12.8	12.0	9.3	11.6	100	5
Cabin Creek	12B6	5400	Mar. 31	31	8.2	6.7	9.5	7.5	0.0	8.0	102	4
5-Bull	12B9	5600	Mar. 24	31	9.6	9.2	9.2	8.8	8.8	9.1	106	5
Gates Park	12B5	5300	Mar. 31	42	12.8	11.5	13.1	11.7	0.0	12.3	104	4
Goat Mountain	12B7	7000	Mar. 31	47	14.4	12.7	15.2	13.4	11.7	10.0	144	14
My Lake	13B9	7300	Not measured									3
Wrong Ridge	12B3	6800	Mar. 28	60	21.2	26.2	28.5	22.5	--	24.6	88	4
Wrong Creek	12B4	5700	Mar. 28	48	15.6	17.3	20.0	15.7	--	17.2	91	4
(Marias River)												
Marias Pass	12B5	5250	Mar. 26	58	20.7	24.5	28.7	21.4	18.9	17.5	124	17
(Milk River)												
Rocky Boy	9A1	5200	Apr. 1	30	5.1	3.8	5.1	6.7	6.7	5.5	93	11
(Musselshell)												
Grasshopper	10C2	7000	Mar. 31	32	8.4	4.0	5.8	8.1	6.8	5.1	164	15

MONTANA SNOW SURVEYS APRIL 1, 1952

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Water Content (Inches) Apr. 1 1952	Past Records 1951	1950	1949	1948	Average date Apr. 1 Avg.	%Avg.	Years
UPPER YELLOWSTONE												
Camp Senia	9D1	7890	Mar. 31	35	7.7	6.8	5.8	7.4	9.3	7.2	107	15
Canyon	10E3	7750	Mar. 31	67	21.4	18.9	18.5	18.3	12.7	16.5	130	7
Cooke City	10D7	7400	Mar. 31	43	11.9	9.2	8.4	10.6	10.1	7.6	156	16
Crevice Mt.	10D5	8400	Mar. 30	58	14.6	9.5	9.4	13.0	13.8	9.8	149	18
Independence	10D6	8000	Mar. 26	78	22.2	19.2	21.2	22.7	21.5	17.7	125	11
Lake Camp	10E4	7850	Apr. 1	53	14.2	11.7	13.6	15.2	11.5	9.3	153	17
Lodgepole, Wyoming	9E1	8200	Mar. 31	44	13.0	15.8	--	14.8	11.6	10.9	120	15
Lupine	10E1	7300	Mar. 31	53	16.4	10.8	11.7	14.2	10.1	9.8	167	14
*Lewis Lake Divide	10E9	7000	Apr. 2	129	52.8	50.4	53.0	52.1	--	45.1	129	34
*Astor Creek	10E8	7700	Apr. 2	102	41.3	39.9	42.8	36.9	30.0	30.1	138	34
*Tom Thumb Summit (Shields River)	10E7	7900	Apr. 2	81	29.6	27.8	28.6	27.4	16.9	25.0	118	6
Porcupine	10C3	9200	Mar. 28	32	9.7	5.8	5.7	9.1	6.1	4.7	206	14
LOWER YELLOWSTONE (Wind River - above Div. Dam)												
Brooks Lake #3	10F2	9200	Mar. 31	84	30.2	36.2	33.2	29.3	24.6	26.6	114	17
Burroughs Creek	9F6	8800	Apr. 1	43	12.6	26.7	19.8	13.9	--	18.2	70	4
Du Noir	9F2	8750	Mar. 31	30	7.6	16.6	13.6	10.5	7.9	10.5	72	12
Geyser Creek	9F3	8500	Apr. 1	29	9.5	12.8	11.3	10.1	--	10.7	88	4
Little Warm-	9F4	9500	Apr. 1	62	19.2	27.7	26.1	19.8	--	23.2	83	4
Sheridan	9F1	7500	Mar. 31	28	7.4	10.8	10.0	9.8	8.0	7.2	102	17
T-Cross Ranch	9F5	8000	Mar. 24	25	7.9	13.3	8.3	7.2	5.9	6.2	127	12
*Togwotee Pass	9F1	9600	Mar. 29	94	32.2	39.9	38.4	32.1	27.4	28.7	112	17
Dinwoodie	9F10	10000	Apr. 2	48	14.5	17.9	18.2	--	--	16.9	86	3
Dry Creek	9F9	9500	Apr. 2	29	7.4	9.7	10.5	--	--	9.2	81	3
Hobbs Park	9G2	10000	Mar. 26	71	23.0	20.9	27.7	22.8	--	23.6	98	4

*Adjacent Basin

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Water Content (Inches) Apr. 1 1952	Past Records 1951	1950	1949	1948	Average Data Apr. 1 Avg.	%Avg.	Years
LOWER YELLOWSTONE (Cont'd)												
Mosquito Park	9G3	9500	Mar. 26	45	12.2	8.0	12.6	9.3	--	9.1	134	8
St. Lawrence	9F11	9000	Mar. 27	37	10.5	7.8	10.2	9.7	--	8.0	132	9
Trout Creek	9G1	8400	Mar. 26	42	10.0	2.9	7.1	8.2	--	7.0	143	4
*Kendall	9F12	7900										
*Loomis Park	10F5	8500										
*Black Rock	10F3	8600	Mar. 29	78	24.7	30.2	28.9	23.6	20.3	21.6	115	17
*Yellow Jacket	10F5	6775	Apr. 1	30	7.1	9.8	--	8.2	4.9	6.7	106	15
POPO AGIE RIVER												
Blue Ridge	8G2	9500	Mar. 28	69	24.8	11.1	20.2	16.7	11.5	11.4	218	13
Grannier Meadows	8G4	9000	Mar. 25	75	22.9	12.7	24.2	17.5	16.3	12.3	186	16
*Larsen Creek	9G4	9000	Apr. 1	45	12.8	13.9	22.8	--	--	16.5	78	3
Sawmill Glade	8G1	8500	Mar. 28	52	14.3	6.0	9.9	10.7	10.9	7.6	188	13
South Pass	8G3	9000	Mar. 25	73	23.1	14.6	24.4	18.3	11.5	13.9	166	13
Mulligan Park	9G5	8900										
*Dutch Joe	9C6	8700	Apr. 1	43	11.0	10.4	11.2	0.0	0.0	7.1	156	17
BIG HORN RIVER (Wyoming)												
Beavers Mill	9F8	8000	Mar. 28	27	6.9	9.1	8.9	7.9	--	8.2	84	4
Owl Creek	8F1	8700	Mar. 29	28	6.7	7.3	6.2	6.6	--	6.7	100	4
Timber Creek	9E2	9000	Apr. 3	24	5.5	7.2	4.7	7.5	--	6.2	89	4
Wood River	9E7	8000	Apr. 2	18	4.0	7.4	5.0	7.4	7.6	5.6	72	13
Tensleep R. S.	7E3	8200	Mar. 31	41	10.0	7.2	8.4	8.5	6.3	6.9	145	16
Ranger Creek	7E1	8800	Mar. 31	45	10.3	7.1	9.0	9.8	--	8.7	119	15

*Adjacent Basin

MONTANA SNOW SURVEYS APRIL 1, 1952

MISSOURI BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Water Content (Inches) Apr. 1 1952	Past Records 1951	1950	1949	1948	Average Data Apr. 1 Avg.	%Avg.	Years
SHOSHONE RIVER												
East Entrance	10E6	7000	Mar. 31	48	13.8	14.3	11.3	17.6	--	14.9	93	4
Sylvan Pass	10E5	7100	Apr. 2	54	17.2	19.2	18.6	19.4	14.8	14.3	120	15
TONGUE RIVER												
Burgess Junction	7E4	7900	Apr. 5	41	12.4	15.8	12.0	--	--	13.4	--	3
Big Goose	7E2	7700	Apr. 5	19	5.0	3.8	2.5	5.3	9.2	4.3	116	17
Dome Lake	7E5	9000										
POWDER RIVER												
Sour Dough	6E1	8500	Mar. 27	32	6.8	7.0	5.1	7.7	8.0	6.0	113	16
North Powder	7E8	8500	Apr. 5	38	10.3	6.8	--	--	--	--	--	2
Soldier Park	7E6	8700	Apr. 5	20	5.1	5.8	4.6	--	--	5.2	99	3
Muddy Pass	7E7	9700	Apr. 27	46	9.9	8.1	8.4	--	--	8.8	113	3
CHEYENNE RIVER (South Dakota)												
Upper Spearfish	1 S.D.	6500	Mar. 28	38	10.2	3.5	7.9	10.8	6.1	6.6		9
Upper Castle												
Deerfield												

MONTANA SNOW SURVEYS APRIL 1, 1952

COLUMBIA BASIN DRAINAGE BASIN AND SNOW COURSE **	No.	Elev.	Date of Survey 1952	Snow Depth (In.) 1952	Water Content (Inches) Apr. 1 1952	Past Records 1951	1950	1949	1948	Average Data Apr. 1 Avg.	%Avg.	Years
KOOTENAI												
Brush Creek	14A4	5000	Mar. 28	38.0	11.8	11.6	18.9	19.0	--	12.0	99	8
Fernie	Canada	3500	Mar. 31	27.0	9.0	11.6	14.9	7.7	8.4	7.8	115	16
New Fernie	Canada	4100	Apr. 1	40	14.6	16.7	--	--	--	--	-	2
Fernie Ridge	Canada	5600	Apr. 1	68	24.1	--	--	--	--	--	-	1
Ferguson	Canada	3000	Mar. 31	46	19.2	23.7	22.9	21.1	22.7	19.5	98	15
Kimberley	Canada	3800	Mar. 31	23	7.3	9.4	11.2	7.1	5.5	5.3	138	15
Marble Canyon	Canada	5000	Mar. 31	46	13.4	22.0	15.7	13.0	13.2	15.0	90	16
Nelson Creek	Canada	3050	Mar. 29	47	17.6	18.0	19.9	18.8	15.0	13.5	130	15
Red Mt. Montana	15A1	6000	Mar. 27	52	18.2	22.0	30.4	21.3	19.2	18.4	99	14
Sinclair Pass	Canada	4500	Mar. 31	20	5.4	9.5	5.9	3.6	4.0	4.9	110	16
Smith Creek	16A1	4800	Apr. 1	116	44.0	50.5	58.1	49.3	42.2	41.8	105	14
Sullivan Mine	Canada	5100	Mar. 31	47	11.3	18.8	21.2	15.3	14.7	16.2	70	7
Upper Elk River	Canada	4400	Apr. 1	24	7.4	10.9	10.6	7.5	9.1	9.1	82	5
Ferguson	Canada	3000	Mar. 31	46	19.2	23.7	22.9	21.1	22.7	19.5	99	15
Gerrard	Canada	5100	Mar. 30	52	17.3	17.3	15.2	12.5	16.7	14.5	119	18
Gray Creek	Canada	5100	Mar. 31	63	19.1	23.0	24.0	20.5	19.6	21.2	90	5
Sandon	Canada	3500	Mar. 31	34	12.0	11.8	14.5	12.8	11.4	10.7	112	15
Blue Bird	14A1	6800	Mar. 31	108	40.4	45.3	46.3	38.2	36.8	35.5	114	14
BITTERROOT												
East Fork R. S.	13D1	5400	Mar. 25	38	10.3	9.2	7.6	10.8	6.5	5.1	202	14
Gibbons Pass	13D2	7100	Mar. 25	86	45.7	28.3	30.0	29.0	23.0	22.8	201	14
Mud Creek Pasture	14C1	4500	Not measured									
Nezperce Camp	14D2	5580	Apr. 1	56	20.0	15.2	16.0	20.8	14.9	13.0	154	16
Nezperce Pass	14D1	6575	Apr. 1	76	24.6	20.0	20.0	24.0	23.6	17.2	143	16
Skalkaho Summit	13C3	7258	Mar. 31	81	26.6	34.4	26.3	36.2	33.7	25.0	106	14
Stuart Mt. #1	13C1	7400	Not measured									
*Moose Creek	13D16	6200	Mar. 28	62	22.0	18.0	18.4	21.2	18.6	15.5	147	16
*Kit Carson	14D3	4700	Apr. 1	38	12.0	9.4	9.0	11.0	10.3	7.2	167	16
*Savage Pass	14C4	6000	Not measured									
*Powell Pasture	15C3	3700	Not measured									
*Packers Meadow	14C2	5700	Not measured									

*Adjacent Basin

MONTANA SNOW SURVEYS APRIL 1, 1952

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UPPER CLARK FORK												
Coyote Hill	13B11	4200	Apr. 1	38	14.9	--	--	--	--	--	--	1
Chessman Res.	12C5	6200	Mar. 27	28	6.7	4.6	4.4	7.6	9.2	4.6	146	17
East Fork R. S.	13D1	5400	Mar. 25	39	10.3	9.2	7.6	10.8	6.5	5.1	202	14
El Dorado Mine	13C9	7800	Not measured									
Gold Creek Lake	13C8	7200	Not measured									
Intergaard	13C4	6450	Mar. 31	36	9.0	8.5	8.0	12.7	10.2	8.3	108	8
North Fork Jocko	13B7	6330	Mar. 31	116	44.6	45.8	56.3	40.0	46.2	39.6	112	12
Picnic Grounds	13C6	6500	Mar. 31	24	6.0	5.6	2.6	7.6	4.7	4.2	143	8
Pipestone Pass	12D1	7200	Mar. 31	34	7.6	6.8	4.2	7.9	7.4	5.7	133	14
Rainy Lake	13B6	4200	Apr. 1	44	17.0	5.1	18.9	14.5	11.0	11.9	143	6
Skalkaho Summit	13C3	7258	Mar. 31	81	26.6	34.4	26.3	36.2	33.7	25.0	106	14
Slide Rock Mt.	13C2	7100	Apr. 1	50	15.5	17.6	18.0	18.8	19.2	13.9	112	16
Southern Cross	13C5	6500	Mar. 31	32	9.1	7.4	4.4	7.4	6.8	5.0	181	8
Stemple Pass	13C1	6900	Mar. 27	50	13.4	11.1	11.6	13.5	10.3	9.5	141	14
Storm Lake #2	12C7	7780	Mar. 31	64	20.5	15.6	16.7	16.0	19.7	14.3	143	14
Stuart Mill	13C6	6500	Mar. 31	36	11.2	8.2	7.2	9.5	9.2	6.7	167	8
Stuart Mt. #1	13C1	7400	Not measured									
Tenmile, Lower	12C2	6250	Apr. 1	36	9.4	8.3	7.6	8.8	9.1	6.4	147	17
Tenmile, Middle	12C3	6800	Apr. 1	48	13.0	12.0	12.8	12.8	14.1	10.3	126	17
Tenmile, Upper	12C4	8000	Apr. 1	56	15.8	15.4	15.8	14.8	18.1	13.2	120	17
*49 Meadows	15B10	5000	Apr. 1	108	40.7	38.0	57.2	47.5	36.0	34.4	117	16
*Above Burke		4100	Mar. 10	64	22.6	21.0	26.8	26.8	18.3	17.0	133	22
*Lookout	15B2	5250	Mar. 31	110	39.6	38.3	47.5	48.7	37.5	33.0	120	16
*Above Roland	15B7	4350	Mar. 13	80	28.8	26.6	35.0	34.2	25.9	24.8	116	23
*Below Roland	15B6	3770	Mar. 13	40	15.1	9.8	--	21.0	12.7	11.9	127	23
*Sunset	15B9	5600	Mar. 12	97	33.9	32.2	34.0	38.1	28.9	30.0	113	30

MONTANA SNOW SURVEYS APRIL 1, 1952

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FLATHEAD RIVER												
Blue Bird	14A1	6800	Mar. 31	108	40.4	45.3	46.3	38.2	36.8	35.5	114	14
Basin Creek	13B14	5000	Apr. 1	34	11.1	9.1	--	--	--	--	--	2
Big Creek	13B3	6750	Apr. 1	117	46.9	44.0	53.8	39.5	45.8	40.1	117	12
Brush Creek	14A4	5000	Mar. 28	38	11.8	11.6	18.9	19.0	--	12.0	99	8
Cattle Queen	13A1	4700	Mar. 31	92	32.9	37.5	45.2	35.5	31.2	30.3	109	14
Desert Mountain	13A2	5600	Mar. 25	57	18.2	21.6	33.3	19.3	14.8	15.2	120	14
Goat Mountain												
Hell Roaring Div.	14A3	5700	Mar. 26	92	34.3	27.7	37.6	33.4	28.6	29.5	116	11
Holbrook	14B13	4530	Apr. 1	34	11.5	7.8	--	--	--	--	--	2
Kishenehn	14A2	4300	Mar. 29	25	7.2	10.3	10.7	7.9	5.5	8.1	89	7
Limestone Pass	13B8	7600	Apr. 2	103	38.8	51.1	54.7	46.3	43.6	46.9	83	5
Logan Creek	14A5	4300	Mar. 27	32	8.4	8.6	10.3	12.5	10.0	8.0	105	14
Marias Pass	13A5	5250	Mar. 26	58	20.7	24.5	28.7	21.4	18.9	17.5	124	17
North Fork Jocko	13B7	6330	Mar. 31	116	44.2	45.8	56.3	40.0	46.2	39.6	112	12
Quintonkon	13A13	3800	Mar. 27	50	18.6	15.7	--	--	--	--	--	2
Rainy Lake	13B6	4300	Apr. 1	44	17.0	5.1	18.9	14.5	11.0	11.9	143	6
Spotted Bear Mt.	13B2	7000	Mar. 27	50	16.0	14.6	19.2	19.6	15.3	17.0	94	5
**Strawberry Lake	13B10	6500	Apr. 4	133	53.6	41.7	59.1	47.8	43.8	47.2	113	5
**Trinkus Lake	13B1	6500	Apr. 4	113	43.3	30.8	57.3	45.0	47.6	48.2	90	5
Trout Lake	13A12	3600	Mar. 28	48	17.4	18.5	27.0	20.7	14.6	19.8	88	5
Twin Creeks	13B11	3580	Mar. 27	36	13.1	9.5	--	--	--	--	--	2
Upper Holland Lake	13B5	7000	Apr. 4	99	36.3	37.0	50.8	36.9	--	40.2	90	4
Snow Lab #16	13A9	5200	Mar. 27	62	20.0	23.2	28.2	23.4	19.2	22.9	88	6
PEND ORIELLE												
Baree Mt.	13B1	6000	Apr. 2	114	44.7	44.2	61.3	55.2	43.1	39.7	103	14
Freeze Out Summit	15C3	7000	Not measured									
Hoodoo Creek	13C1	6200	Not measured									
Mosquito Ridge	16A4	5600	Apr. 1	110	42.6	37.2	50.6	44.5	31.5	34.5	123	16
** Strawberry Lake	13B10	6500	Mar. 17	115	43.5	--	--	--	--	--	--	
** Trinkus Lake	13B1	6500	Mar. 17	130	50.5	--	--	--	--	--	--	

Federal - State - Private

COOPERATIVE SNOW SURVEYS

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Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"WATER IS THE WEST'S GREATEST RESOURCE"